Boceprevir (BOC) and Telaprevir (TPV) therapeutic drug monitoring in HCV and HIV-HCV infected patients treated with triple therapy Ribavirine/Peg-interferon/Boceprevir or Telaprevir: impact of the antiretroviral (ARV) treatment

Anne-Sophie Chantry, M Tching-Sin, Catherine Dhiver, Thierry Allegre, Jean-Marie Ruiz, Assi Assi, Danielle Botta-Fridlund, Philippe Halfon, Olivia Faucher-Zaegel, Caroline Solas

▶ **To cite this version:**

Anne-Sophie Chantry, M Tching-Sin, Catherine Dhiver, Thierry Allegre, Jean-Marie Ruiz, et al.. Boceprevir (BOC) and Telaprevir (TPV) therapeutic drug monitoring in HCV and HIV-HCV infected patients treated with triple therapy Ribavirine/Peg-interferon/Boceprevir or Telaprevir: impact of the antiretroviral (ARV) treatment. BMC Infectious Diseases, 2014, 14 (Suppl 2), pp.P83. inserm-00995738

HAL Id: inserm-00995738

https://www.hal.inserm.fr/inserm-00995738

Submitted on 23 May 2014

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

Chantry et al. BMC Infectious Diseases 2014, 14(Suppl 2):P83
http://www.biomedcentral.com/1471-2334/14/S2/P83

BMC Infectious Diseases

POSTER PRESENTATION Open Access

Boceprevir (BOC) and Telaprevir (TPV) therapeutic drug monitoring in HCV and HIV-HCV infected patients treated with triple therapy Ribavirine/ Peg-interferon/Boceprevir or Telaprevir: impact of the antiretroviral (ARV) treatment

AS Chantry[1*], M Tching-Sin[1], C Dhiver[2], T Allegre[3], JM Ruiz[4], A Assi[5], D Botta-Fridlund[6], P Halfon[7,8], O Faucher-Zaegel[9], C Solas[1,10]

From International Symposium HIV and Emerging Infectious Diseases 2014
Marseille, France. 21-23 May 2013

Introduction

BOC and TPV are potent NS3/4A protease inhibitors for the treatment of chronic hepatitis C (HCV) genotype 1 infection. BOC and TPV are both substrates and strong inhibitors of the CYP3A, therefore presenting a wide interindividual pharmacokinetic variability and multiple drug interactions especially with ARV such as lopinavir/r, darunavir/r or efavirenz, thus restricting options for concomitant ARV therapy. We evaluated plasma concentrations of coinfected and monoinfected patients treated with BOC and TPV and the PK data of patients treated with non recommended ARV.

Method

Data from patients whose BOC and TPV trough concentration had been assessed during treatment were retrospectively analyzed. Plasma concentrations were determined using a LC-MS/MS method. Mann-Whitney U test was used for statistics (PASW Statistics 17).

Results

Overall, 58 patients were included (84% male, median age: 51 years (34-70)), treated with BOC (25) or TPV (33). Thirty-two (55%) patients are coinfected (14 BOC, 18 TPV) and 26 (45%) are monoinfected (11 BOC, 15 TPV). Median (range, CV) TPV and BOC trough concentrations were respectively, 1928 ng/mL (92-3204, 47%) and 111 ng/mL (33-903, 112%) in coinfected patients versus 2787 ng/mL (252-5551, 54%) and 153 ng/mL (25-2658, 150%) in monoinfected patients, which is statistically different only for TPV ($p<0.05$). Six patients received non recommended ARV: 4 were treated with darunavir/r (2 BOC, 2 TPV), 1 with efavirenz and BOC and 1 with lopinavir/r and TPV. Median (range) TPV and BOC concentrations were respectively, 1967 ng/mL (580-3204) and 103 ng/ml (33-903) with recommended ARV versus 1304 ng/mL (92-2565) and 146 ng/ml (65-304) with non recommended ARV.

Conclusion

This study highlights a strong interindividual variability in BOC and TPV trough concentrations. Lower concentrations were observed in coinfected patients but remaining within the expected range, which may be explained by drug interactions with some ARV. Hence, therapeutic drug monitoring is useful to manage these interactions and evaluate the risk-benefit balance of using non recommended ARV in coinfected patients with advanced hepatic disease.

Authors' details
[1]Timone Hospital, Pharmacokinetics and toxicology department, Marseille, France. [2]AP-HM Conception Hospital, Infectious Diseases department, Marseille, France. [3]Pays d'Aix Hospital, Hematology and Internal Medicine Department, Aix-en-Provence, France. [4]AP-HM, Hôpitaux Sud, Medicine in prison department, Marseille, France. [5]Sainte Musse Hospital, Infectiology

[1]Timone Hospital, Pharmacokinetics and toxicology department, Marseille, France
Full list of author information is available at the end of the article

BioMed Central

© 2014 Chantry et al; licensee BioMed Central Ltd. This is an Open Access article distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. The Creative Commons Public Domain Dedication waiver (http://creativecommons.org/publicdomain/zero/1.0/) applies to the data made available in this article, unless otherwise stated.

department, Toulon, France. [6]AP-HM Conception Hospital, Digestive surgery department, Marseille, France. [7]European Hospital, Marseille, France. [8]Alphabio Laboratory, Marseille, France. [9]AP-HM Sainte-Marguerite Hospital, Immuno-Hematology department, Marseille, France. [10]University of Aix-Marseille, INSERM UMR 911 - CRO2, Faculty of Pharmacy, Marseille, France.

Published: 23 May 2014

doi:10.1186/1471-2334-14-S2-P83
Cite this article as: Chantry *et al.*: Boceprevir (BOC) and Telaprevir (TPV) therapeutic drug monitoring in HCV and HIV-HCV infected patients treated with triple therapy Ribavirine/Peg-interferon/Boceprevir or Telaprevir: impact of the antiretroviral (ARV) treatment. *BMC Infectious Diseases* 2014 **14**(Suppl 2):P83.

Submit your next manuscript to BioMed Central and take full advantage of:

- **Convenient online submission**
- **Thorough peer review**
- **No space constraints or color figure charges**
- **Immediate publication on acceptance**
- **Inclusion in PubMed, CAS, Scopus and Google Scholar**
- **Research which is freely available for redistribution**

Submit your manuscript at
www.biomedcentral.com/submit

BioMed Central